

REMARKS

Applicants respectfully request that the above application be reconsidered, as amended. Claims 1-3 and 6-36 are currently pending.

New Claim 34 has been added which defines the particles comprising the substantially insoluble bond coat strengthening compound as being throughout the thickness of the bond coat layer. Support for new Claim 34 can be found in paragraph [0030] at page 10 of the above application.

Claims 4-5 have been rewritten as new Claims 35-36. New Claim 35 defines the bond coat strengthening compound as being selected from the group consisting of zirconia, hafnia, ceria, lanthana, zirconium carbide, hafnium carbide, tantalum carbide, aluminum nitride, zirconium nitride, hafnium nitride, and mixtures thereof. New Claim 36 further defines the bond coat strengthening compound as being selected from the group consisting of zirconium carbide, hafnium carbide, tantalum carbide, aluminum nitride, zirconium nitride, hafnium nitride, and mixtures thereof. Claims 16 and 28 has also been amended to define the bond coat strengthening compound as being selected from the group consisting of zirconia, hafnia, ceria, lanthana, and mixtures thereof. Support for new Claims 35-36, as well as the amendments to Claims 16 and 28, can be found in paragraph [0031] at page 10 of the above application.

A. Response to Rejection of Claims 1-11, 13-21, 23 and 26-32 under 35 USC 102(b) as Anticipated by Brindley et al, as well as Rejection of Claims 1-10 and 12-32 under 35 USC 103(a) as Unpatentable over Brindley et al

At page 2 of the Office Action, the Examiner has rejected Claims 1-11, 13-21, 23 and 26-32 under 35 USC 102(b) as anticipated by U.S Patent 6,093,454 (Brindley et al). At page 3 of the Office Action, the Examiner has also rejected Claims 1-10 and 12-32 under 35 USC 103(a) as unpatentable over Brindley et al.

Applicants respectfully traverse these rejections. Specifically, Claims 1-3, 6-11, 13-21, 23 and 26-32, as amended, as well as new Claims 34-36, are novel and unobvious over Brindley et al for at least the following reasons:

1. Size of the particulates/particles. Brindley et al discloses that its dispersed particulates can be as large as 5 microns in size. See col. 4, lines 2-4. By contrast, the dispersed particles of the instant Claims (see, for example, Claims 1, 13 and 26) are no more than about 2 microns in size. In particular, Claims 10, 20 and 31-33 define the dispersed particles as having a size in the range of from about 10 to about 500 nanometers, i.e., no more than about 0.5 microns in size.
2. Where the particulates/particles are dispersed in the bond coat layer(s). Brindley et al discloses that its particulates are dispersed in upper bond coat layer 36, but says nothing about dispersing these particulates in lower first bond coat layer 28. See col. 3, lines 45-55. By contrast, new Claim 34 defines the particles as being dispersed throughout the bond coat layer.
3. Composition of the particulates/particles. Brindley et al discloses that its particulates can comprise alumina, chromia, or yttria. See col. 4, lines 4-6). However, Brindley et al does not teach or suggest that its particulates can comprise metal carbides or nitrides according to new Claims 35-36. Brindley et al also does not teach or suggest that its particulates can comprise zirconia, hafnia, ceria, or lanthana according to new Claim 35, or according to Claims 16 and 28, as amended.
4. Type of bond coat layer in which the particulates/particles are dispersed. Brindley et al discloses that second bond coat layer 36 having the dispersed particulates can comprise MCrAlX, i.e., is an overlay bond coat. See col. 3, lines 53-55. Brindley et al does not teach or suggest that second bond coat layer 36 can comprise an aluminide diffusion bond coat, or can comprise the combination of an aluminide diffusion bond coat with an overlay bond coat, according to Claims 22 and 26-32.

B. Response to Rejection of Claims 1-33 under 35 USC 103(a) as Unpatentable over Wustman et al

At pages 3-4 of the Office Action, the Examiner has rejected Claims 1-33 under 35 USC 103(a) as unpatentable over U.S. Patent 6,485,845 (Wustman et al).

Applicants respectfully traverse this rejection. Specifically, Claims 1-3 and 6-33, as amended, as well as new Claims 34-36, are novel and unobvious over Wustman et al for at least the following reasons:

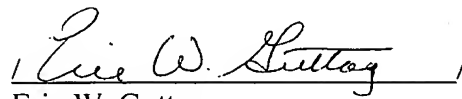
1. Size of the particles. Wustman et al discloses its dispersed particles can be as large as 45 microns. See col. 4, lines 31-34. By contrast, the dispersed particles of the instant Claims (see, for example, Claims 1, 13 and 26) are no more than about 2 microns in size.
2. Where the particles are dispersed in the bond coat layer(s). Wustman et al discloses that its particles are dispersed in upper additive layer 28 of bond coat 24, but says nothing about dispersing these particles in lower diffusion layer 30. See col. 4, lines 6-8. By contrast, new Claim 34 defines the particles as being dispersed throughout the bond coat layer.
3. Composition of the particles. Wustman et al discloses its particulates can comprise various metal oxides including alumina, chromia, yttria, zirconia, hafnia and lanthana. See col. 4, lines 16-21). However, Wustman et al does not teach or suggest that its particulates can comprise metal carbides or nitrides according to new Claim 36.

C. Conclusion

In conclusion, Claims 1-3 and 6-36, as amended, are novel and unobvious over the prior art relied in the Office Action. Accordingly, Applicants respectfully request that Claims 1-3 and 6-36, as amended, be allowed to issue in the above application.

Respectfully submitted,

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A handwritten signature in cursive script, reading "Eric W. Gutttag", is written over a horizontal line.

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